BUILDING A HEALTHY SASKATCHEWAN THROUGH HEALTH RESEARCH

Annual Report 2007-08

Connecting with **Communities**

Saskatchewan
Health Research
FOUNDATION

VISION

Building a healthy Saskatchewan through health research

MISSION

The Saskatchewan Health Research Foundation contributes to a healthy province by funding and promoting excellence in health research, promoting the benefits of health research, and enhancing capacity, including securing funds to support excellent research and researchers.

VALUES

We believe health research:

- is the ethical search for truth, knowledge, and understanding about human health;
- is an investment that leads to benefits for all Saskatchewan residents in many areas, including health, education and the economy;
- includes both basic and applied research; and
- encompasses many dimensions, including biomedical science, clinical investigation, health services and systems research, and research into the determinants of population health.

We are committed to good governance, including:

- good stewardship for the resources entrusted to us; and
- the highest standards of public accountability.

We will maintain the highest standards of professional conduct, including:

- integrity and honesty;
- respect for diverse perspectives and approaches; and
- clear, open, honest and timely communication.

We will work co-operatively and collaboratively with others to:

- achieve mutual goals related to advancing health research in Saskatchewan; and
- ensure research findings are shared and used as widely as possible.

We strive for excellence and innovation in all our endeavours.

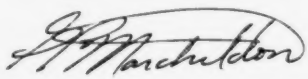
MESSAGE TO THE MINISTER

The Honourable Don McMorris
Minister of Health
Legislative Assembly
Regina, SK S4S 0B3

Dear Mr. McMorris,

I am pleased to submit for your consideration the annual report of the Saskatchewan Health Research Foundation for the fiscal period April 1, 2007 to March 31, 2008.

Respectfully submitted,



Gregory P. Marchildon, PhD
Board Chair

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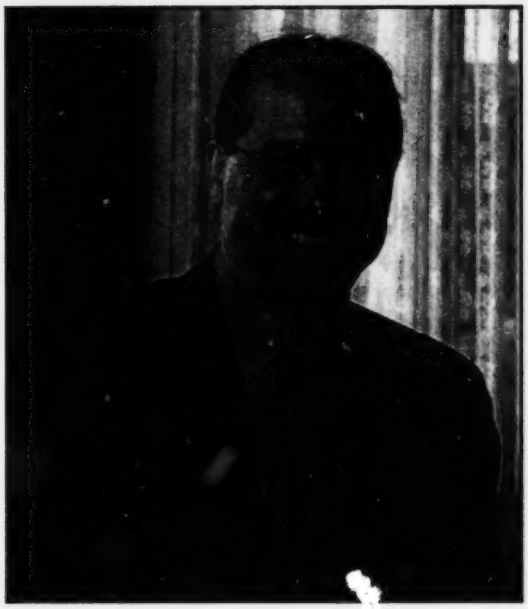


Building Capacity, Fostering Excellence

In the past year, Saskatchewan has seen a major upswing in its economy creating a dynamic environment that presents new challenges and new opportunities as we work to build capacity and foster health research excellence in our province.

One challenge revealed by a commissioned Science-Metrix study, The Scientific Positioning of Saskatchewan Health Research, is our health researchers lag behind their colleagues across the country in the number of journal articles they publish and the quality of journals in which they are published. There are many possible reasons for this disparity, such as low research capacity relative to other jurisdictions, high teaching loads, lack of protected research time, and relative importance accorded to research disseminated through scholarly journals.

How we can best support our researchers in sharing their knowledge in Canada and the rest of the world? As with all Foundation activities, we will rely on collaboration with our partners to develop and implement effective strategies.

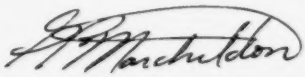
We continue to focus on helping researchers get national grants to conduct their essential work. Together with our partners at the universities, the health regions, and the government, we can claim some success. For example, we are a main contributor to the CIHR Regional Partnerships Program and partner with the University of Saskatchewan and University of Regina on initiatives to enhance the quality and increase the quantity of grant applications to CIHR. As a result, we have seen funding increase fourfold. We need to double this again to get to a level we feel is consistent with our place in Canadian health research, but we have made great strides.

The transition from ongoing Centres funding to competitive Team grants is almost complete. Now the Foundation's largest program, the peer-reviewed Team grants in priority areas allow independent confirmation that funds are backing the highest quality work and provide flexibility to shift resources.

An evaluation of our Research Fellowships program confirms our processes are working well, and the program is making significant contributions to the research environment.

We have reallocated $200,000 per year for a major new initiative, the Saskatchewan Research Chairs program. We plan to fund two chairs initially, and are actively pursuing partners to provide matching funding. We strongly believe these chairs will enhance Saskatchewan's research capacity by leveraging more funding to address key research questions, allow more research funds to stay in this province, and provide valuable opportunities to share and use health research knowledge.

The Chairs program, along with all of the Foundation's efforts, relies on collaboration for its success. A major focus for this year for our Board as a group will be to strengthen these alliances with health-related agencies, volunteer organizations, and the private sector. We will be personally contacting stakeholders to identify mutually beneficial directions. We share a common vision: that knowledge borne of research is essential to building a healthy, prosperous Saskatchewan.



Gregory P. Marchildon, PhD
Board Chair

BOARD OF DIRECTORS

Greg Marchildon, Chair (4)
University of Regina

Murray Knuttila, Vice Chair (5)
Regina Qu'Appelle Health Region

Neena Chappell (1)
University of Victoria
(Until April 16, 2007)

Louis Delbaere (4)
University of Saskatchewan

Gary Glavin (4)
University of Manitoba
(Until February 29, 2008)

John Gordon (4)
University of Saskatchewan

Cory Neudorf (5)
Saskatoon Health Region

Pauline Rousseau (4)
Ministry of Health

Reg Urbanowski (4)
Ministry of Advanced Education,
Employment, and Labour

Debbie Wilkie (4)
Industry and Resources
(Until February 2, 2008)

Tom Wishart (5)
University of Saskatchewan

* Figures in brackets indicate the number of meetings each SHRF board member attended in the 2007-08 fiscal year. There were a total of five meetings held.

MANDATE

As defined in *The Saskatchewan Health Research Foundation Act* (2002):

1) Seek and receive funding from government and non-government sources for the advancement of research.
2) Encourage and facilitate research in health sciences, the health-related social sciences and other health-related fields of study.
3) Assist the Minister of Health to develop a provincial strategy for research into matters associated with the health sciences, the health-related social sciences and other health-related fields of study.
4) Provide funding to persons and agencies who are conducting or proposing to conduct research projects that are consistent with the provincial strategy.
5) Disseminate information to members of health-related professions and to the public respecting the objects of the Foundation, the research that the Foundation supports, the results of that research and conclusions drawn from that research.

A Vision to Strengthen Health Research for Saskatchewan People

The provincial *Health Research Strategy* is a 10-year vision to strengthen health research in Saskatchewan and ensure research leads to benefits for citizens. It was released by the Minister of Health in 2004. Figure 1 indicates the Strategy's four major themes and describes the five health research priority areas, which emerged from province-wide consultations in 2003. The priority areas reflect the province's demographic and geographic characteristics, the health status and health challenges of Saskatchewan residents, and existing areas of strength and comparative advantage.

While the Strategy designates the Foundation as the lead agency for implementation, its success depends on the collaboration and commitment of many other agencies and individuals in Saskatchewan. Working with our many partners, we have made considerable progress, as you will read throughout this report. The table on the following page highlights our progress on the Strategy during 2007-08 and outlines plans for 2008-09.

Figure 1: Directions in the *Health Research Strategy*

Key messages from consultations:

- Saskatchewan needs to focus its research resources and energies in areas critical to the health and well-being of its population.
- Saskatchewan also needs to build on its current health research strengths and its comparative advantages.

Major themes of the Strategy:

1. Advancing health research priority areas (see below);
2. Applying what we learn (knowledge translation);
3. Building health research capacity; and
4. Tracking progress and impact.

Five health research priority areas:

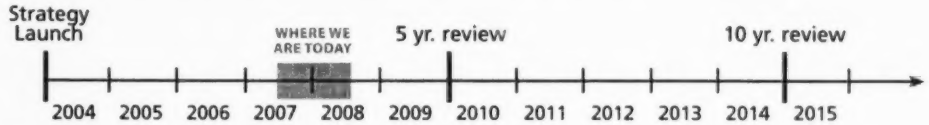
a. Health needs of specific populations, with emphasis on Aboriginal people and seniors;

b. Health systems and policy research, with emphasis on: health human resources; quality improvement; primary health care, mental health and addictions; innovative delivery models; and rural and remote health service delivery;

c. Determinants of health status, including early childhood development and the prevention and underlying causes of chronic and lifestyle-related disease (particularly diabetes, obesity and smoking);

d. Public health, including infectious diseases, water safety and food safety; and

e. Synchrotron-based health research.



		Looking Back at 2007-08 ...	Looking Ahead to 2008-09 ...
	Strategic Themes	**Action Highlights**	**Planned Actions**
1	**Advancing Saskatchewan's health research priority areas**	• Allocated competitive funding to support health research priority areas – 50 per cent for establishment grants and fellowships, 100 per cent for teams and developing groups • Completed consultations and shared report on directions for rural and remote health research • Partnered with CIHR's Institute of Health Services and Policy Research on two matching programs	• Continue alignment of funding programs with the Strategy's health research priority areas • Plan approach to identify and support priorities for research on the health needs of the elderly • With partners, establish research chairs to attract more top-quality researchers in priority areas, as resources permit
2	**Fostering the exchange and application of health research knowledge**	• Completed and began sharing the Health Research in Action framework for increasing knowledge translation capacity • Continued requirement for researchers to address knowledge translation in their funding applications, as relevant to their field • Supported research-based conferences and workshops focusing on exchanging knowledge (Research Connections Program)	• Encourage partners to adopt the Health Research in Action framework, as relevant to their work • Continue emphasis on knowledge sharing in all existing and any new funding programs • Continue Research Connections Program and explore other mechanisms for fostering knowledge exchange
3	**Strengthening Saskatchewan's health research capacity**	• Supported the Sask-CIHR Regional Partnership Program (RPP), aligned with the Strategy • Continued partnerships with the Universities of Saskatchewan and Regina to fund health research co-ordination positions • Joined the working group on provincial ethics review harmonization led by the Saskatchewan Academic Health Sciences Network • Led Health Research Week and other activities showcasing health research	• Continue support for the Sask-CIHR RPP to increase federally funded research activity in SK • Continue support for health research co-ordination positions at the Universities of Saskatchewan and Regina • Continue work with provincial partners to harmonize and streamline research ethics review • Expand Health Research Week and other activities that showcase health research
4	**Implementing the Health Research Strategy and tracking progress**	• Completed baseline data collection: case study interviews to assess influence of the Strategy; and economic impact of health research • Supported, with many partners, the Canadian Academy of Health Sciences' study of the returns on the public investment in health research • Began regular cycle of program evaluation, starting with the Research Fellowship Program • Submitted a request to government for additional resources to implement the Strategy	• Continue tracking as outlined in our Strategy Evaluation Framework and produce a second report card on our progress • Work with partners to identify common indicators and collect data for assessing the impact of health research • Continue regular monitoring of grant outputs and outcomes, and formally evaluate another program • Pursue resources and partnerships to advance our mandate and the Strategy's themes

^ **(l-r) Patrick Odnokon,** Research Analyst; **Susan Blum,** Director of Finance and Administration; **Kara Schell,** Summer Student; **Valerie Ziegler,** Administrative Secretary; **June Bold,** CEO; **Sherry Walling,** Accountant; **Lynn Nastiuk,** Administrative Assistant; **Michael Robin,** Communications Manager; **Alexa Briggs,** Funding Programs Manager.

Our First Five Years

Can it be that SHRF is already five years old?

We have had five very full years since the Foundation's launch on January 31, 2003 – our birthday. We have accomplished a great deal together. I feel proud of the efforts of our staff and our board, and am grateful for the vital connections and collaborations we enjoy with the many agencies with which we work.

In this spirit of partnership, we conducted three province-wide consultations, first on strategic directions for health research in the province, then on building capacity for sharing and using research and, finally, on rural and remote health services research. Each produced insights to guide our work and that of many others in Saskatchewan's health research community.

Our funding programs have evolved with the changing research environment, particularly with the growing emphasis on interdisciplinary collaborative approaches. Our New Investigator Establishment Grants and Research Fellowships continue as core programs. These programs have helped launch the careers of talented young researchers, many of whom have gone on to secure major federal grants to help build Saskatchewan's health research capacity.

Major additions to our funding programs include grants to encourage research group formation and development and grants for high-performing teams working in priority areas. A small but mighty program called Research Connections supports knowledge sharing between researchers and our communities provincially, nationally and internationally and in the process showcases health research in Saskatchewan.

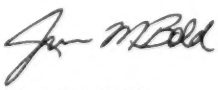
I invite you to read in this report about some of the exciting work by the researchers we support. Their efforts are having an impact on health, health-care, training, and the economy in our province and our country.

By connecting with our partners nationally, we have learned about best practices and joined forces on key initiatives. For example, the National Alliance of Provincial Health Research Organizations (NAPHRO) brings together agencies like ours from across the country. Joint initiatives include developing common indicators to measure the impact of health research; participating in a study on research leadership and management; and exploring ways to increase health systems and policy research.

The Foundation started with three employees and now has nine, with growth in management, communications, research and evaluation, administrative support, and expected growth in the area of knowledge sharing. True to our legislated mandate, we are augmenting our core funding to advance health research in the province through partnerships, most notably through our flagship Saskatchewan Research Chairs program.

We continue to connect and work with our partners to foster and promote health research, focus resources on strategic issues, share and use research knowledge to improve health and health care, improve support processes like ethics review, and track the benefits of the province's investment in health research.

If our first five years are an indication, we can look forward to many exciting initiatives and positive results in our future.



June M. Bold, MSc
Chief Executive Officer

Supporting Saskatchewan Health Researchers

Our funding programs have a strong developmental focus, aiming to build health research capacity and help Saskatchewan researchers enter the highly competitive national scene. We encourage and support a broad range of inquiry, including basic biomedical science, clinical research, health services and system research and research into the cultural, social and environmental determinants of population health.

Funding decisions are aligned with the priority areas outlined in the provincial *Health Research Strategy*. In our long-standing Establishment Grants and Research Fellowship programs, preference is given to proposals in the priority research areas; 50 per cent of the funds for each of these programs were earmarked for priority area research. Actual funds allocated to priority areas in both programs exceeded that level. The Research Group Development and Health Research Team grants focused on advancing priority area research exclusively.

In total, our Board approved more than $7.5 million in research grants and fellowships in 2007-08. This section:

- provides an overview of all grants and awards approved (see Table 1);
- describes funding programs offered in this fiscal year; and
- lists recipients for each of the programs.

Further information about our programs, policies, eligibility criteria and submission requirements for all programs is available in our *SHRF Awards Guide*, published annually and posted online at www.shrf.ca. The website also carries competition results and details about each grant, including funding amounts and easy-reading project summaries.

Table 1: Applications Received, Recommended, and Approved 2007-08

Grant Category	*Received*		*Recommended*		*Approved**		
	No.	$	No.	$	No.	Term	$
Research Fellowships							
Postdoctoral	24	2,160,000	20	180,000	**9**	**2 yrs**	**810,000**
Clinical	0	–	0	–	**0**	**–**	**–**
Subtotal		2,160,000		180,000			**810,000**
New Investigator Establishment	34	2,559,695	29	2,190,671	**17**	**2 yrs**	**1,308,855**
New Investigator Equipment**	19	566,500	16	441,554	**10**	**6 mos**	**263,939**
Partnership	1	10,000	1	10,000	**1**	**1 yr**	**10,000**
Research Connections	18	136,500	13	63,000	**13**	**n/a**	**63,000**
Strategic Priorities	1	40,000	1	40,000	**1**	**2 yrs**	**40,000**
Research Group Development	6	300,000	4	200,000	**4**	**2 yrs**	**200,000**
Health Research Team							
Letters of Intent	5	n/a	4	n/a	**3**	**n/a**	**n/a**
Full Application	3	7,324,343	2	4,825,001	**2**	**5 yrs**	**4,825,001**
TOTAL		**13,097,038**		**7,950,226**			**7,520,795**

* Approved amounts are for the full term of the grant.

** Applicants for New Investigator Establishment Grants may also apply for an accompanying Equipment Grant.

New Investigator Establishment and Equipment Grants

New Investigator Establishment grants supply up to **$40,000 per year for two years** to new university faculty Saskatchewan to help them establish independant research programs and achieve the productivity necessary to obtain longer term and more substantial funding from national and other external agencies. Applicants may also apply for New Investigator Equipment grants of up to **$30,000 over a period of six months** to acquire major equipment essential to their research that is not available through other means.

Dr. Janet Hill

RESEARCH SPOTLIGHT
DR. JANET HILL
NEW INVESTIGATOR ESTABLISHMENT GRANT AND
NEW INVESTIGATOR EQUIPMENT GRANT, BIOMEDICAL

Is Fido Making You Sick?

You wake up nauseated, and it only gets worse from there. Vomiting. Diarrhea. Cramps.

First, you feel like you're going to die. Then, you're afraid you won't. One thing is certain: you aren't going to work today.

While several microbes could be responsible for your misery, chances are it is one or more species of *Campylobacter*. While these bacteria are notorious for contaminating food and water, it's not necessarily something you ate. It might be the furry company you keep.

"In a lot of human *Campylobacter* infections, we don't know the source," says Dr. Janet Hill, a researcher in the Western College of Veterinary Medicine (WCVM) at the University of Saskatchewan.

Only a few species of *Campylobacter* are routinely cultured in the lab and this lack of good diagnostics is a problem for people and pets. For example, veterinarians often detect the bacteria in a sick pet but are unable to confirm the diagnosis with a test culture.

Hill hopes to help shed some light on this with a gene sequence called *cpn*60, found in all organisms but unique to each species.

"The way I explain it to my students is we all have pinky fingers, but everyone's pinky is a little different," Hill says.

Backed by a SHRF New Investigator Establishment grant and accompanying Equipment grant for a powerful new instrument for detecting specific bacterial gene sequences in clinical specimens, Hill is using the *Campylobacter* "pinky" as the basis for diagnostics that are faster and able to detect species that elude standard culture tests.

"I'm so thrilled to get this New Investigator Establishment grant. For someone new like myself, funding is not easy to come by. To start up a new lab, get equipment, get a student into your lab, that's huge. That piece of equipment is a core piece in our lab. We're going to be using it in all of our projects."

While *Campylobacter* infection rarely kills anyone, Hill says its impact in terms of lost work and use of health care resources is considerable.

"If you start to add those up, in terms of burden on public health, it is considerable. People may dismiss it as trivial, but once you start to add up the costs, it's not."

RESEARCH SPOTLIGHT
DR. SAIJA KONTULAINEN
NEW INVESTIGATOR ESTABLISHMENT GRANT AND
NEW INVESTIGATOR EQUIPMENT GRANT, SOCIO-HEALTH

Another reason to get the kids off the couch

So your kids spend their free time on the couch and munching junk food. They'll grow out of it with no lasting harm done, right?

Maybe. But odds are these sedentary kids are setting themselves up for health problems later in life, according to Dr. Saija Kontulainen, a researcher in the College of Kinesiology at the University of Saskatchewan. In fact, the legacy of our lifestyle and diet during childhood and early adolescence may be written in our very bones.

Kontulainen, backed by a SHRF New Investigator grant and accompanying Equipment grant, is working to understand how lifestyle and diet in early adolescence are linked with bone strength and problems such as osteoporosis later in life.

"Based on the current literature, pubertal years and especially early pubertal years seem to provide a window of opportunity to enhance bone size and geometry by exercise," she says.

This wisdom relies for the most part on short-term studies. Kontulainen is looking long term, building on a unique opportunity provided by the 1964-1973 *Saskatchewan Growth and Development Study*. This study measured growth parameters and lifestyle factors on children from six to 16 years of age. These participants are now approaching middle age.

Kontulainen and her colleagues will look at both men and women with peripheral quantitative computed tomography (pQCT), a medical imaging tool similar to a clinical CT scanner. The instrument will allow assessment of bone structure, geometry, and estimated strength at various sites on the arms and legs. It will also be used to measure muscle mass in these extremities.

If the researchers find a relationship between bone strength in middle age and activity in adolescence, it could have wide implications not only for kids at home, but also for priorities at school.

"For example, if forearm muscle strength development from specific sports during the growing years is associated with stronger bone structure in the wrist in midlife, those exercises could be implemented in PE classes," Kontulainen says.

New Investigator Establishment Grants

Asterisk (*) indicates accompanying Equipment Grant

Terra Arnason*
Dept. of Medicine, Medicine,
University of Saskatchewan
The role of ubiquitin in the regulation of human AMP-activated protein kinase (AMPK)

Angela Bowen
Nursing, University of Saskatchewan
Maternal mental health: A model program for pregnant and postpartum women
--funded with the Canadian Nurses Foundation through the Nursing Care Partnership

Francisco Cayabyab*
Physiology, Medicine, University of Saskatchewan
Cellular mechanisms of adenosine A1 receptor-induced synaptic depression in the hippocampus

Jo-Anne Dillon
Vaccine and Infectious Disease Organization,
University of Saskatchewan
Role of FtsA in early divisome formation in Neisseria gonorrhoeae

Oleg Dmitriev*
Biochemistry, Medicine, University of Saskatchewan
Molecular mechanism of the proton transfer in the E. coli ATP synthase: Structure of the subunit a

Paul Hackett*
Geography, Arts and Science,
University of Saskatchewan
A comparative analysis of the emergence of Type 2 Diabetes Mellitus among the First Nations of Manitoba and Saskatchewan: 1945-70

Janet Hill*
Veterinary Microbiology, Veterinary Medicine,
University of Saskatchewan
Diagnostic tools for understanding Campylobacter ecology in people and pets

Saija Kontulainen*
Kinesiology, University of Saskatchewan
The relationship of physical development and physical activity during childhood and adolescence to bone strength at 50 years of age

Lynn Loutzenhiser
Psychology, Arts, University of Regina
Physiological, psychological and situational factors associated with fatigue in first-time mothers and fathers during the transition to parenthood

Sean Mulligan*
Physiology, Medicine, University of Saskatchewan
Neurobiology of astrocyte-cerebrovascular communication

John Patrick Neary*
Kinesiology and Health Sciences,
University of Regina
Biopsychological factors of post-concussion syndrome: Implication for mental health

Pammla Petrucka
Nursing, University of Saskatchewan
Perceptions from the edge: Aboriginal and rural Saskatchewan residents living with chronic kidney disease/chronic renal insufficiency
--funded with the Canadian Nurses Foundation through the Nursing Care Partnership

Syed Shah
Community Health and Epidemiology, Medicine,
University of Saskatchewan
Surveillance of work-related injuries and evaluation for effective prevention (SWEEP) in health care

Ulrich Teucher
Psychology, Arts and Science,
University of Saskatchewan
Cancer and aging: Making sense of life with serious illness

Gerry Uswak
Dentistry, University of Saskatchewan
Utilization of geographic information systems (GIS) and spatial analysis to assess the impact of dental manpower distribution on oral health status in Saskatchewan

Sheldon Wiebe*
Medical Imaging, Medicine,
University of Saskatchewan
Imaging of growth plate injury and the effect of inflammation using innovative synchrotron imaging techniques

Joyce Wilson*
Microbiology and Immunology, Medicine,
University of Saskatchewan
Host cellular genes that regulate RNA interference and Hepatitis C virus replication

Note:
Lay-language summaries of the research projects of all grant recipients are available online at www.shrf.ca

Research Fellowships

Postdoctoral Research Fellowships offer full-time training opportunities for high-quality candidates in health-related fields. Fellows are supervised by experienced, active researchers to further develop their skills and equip themselves for a career in health research. The program offers a salary stipend of **$40,000 per year and a research allowance of $5,000 per year** for up to two years. **Clinical Research Fellowships** are intended to help remedy the serious shortage of clinician-scientists in Saskatchewan. These Fellowships offer training opportunities for high-quality candidates to develop a skill set that will allow them to undertake a career as a clinician scientist in this province. This program offers a salary stipend of **$40,000 to $50,000 per year plus a research allowance of $5,000 per year** for up to two years.

RESEARCH SPOTLIGHT
DR. YANG LI
POSTDOCTORAL RESEARCH FELLOW, BIOMEDICAL

Blocking the pathway to flu

Every year, new strains of influenza erupt from Asia, spread across the world and burn themselves out, costing world economies billions of dollars and killing tens of thousands of their most vulnerable citizens – the elderly and the very young.

Postdoctoral fellow Dr. Yang Li hopes to contribute to efforts to prevent this death and disease by understanding how the virus activates a cellular pathway called PI3K/Akt. The virus uses a protein called NS1 to essentially "pick the lock" when hijacking the cell's machinery for its own ends. In healthy cells, this pathway plays a key role in controlling how cells survive, multiply, and self-destruct.

Working at the Vaccine and Infectious Disease Organization (VIDO) at the University of Saskatchewan, and backed by a SHRF Fellowship grant, Li is working to understand exactly how the virus takes over the PI3K/Akt pathway, and how this activated pathway allows the virus to do its dirty work.

"This knowledge would allow us to cripple the virus so that it won't cause disease, giving it great potential to serve as a live vaccine," Li says.

Li and his colleagues have discovered that this particular viral strategy is common to many flu strains, raising the possibility of a vaccine that could protect against many types of flu.

"We have identified some common amino acid sequences on the viral NS1 protein that are responsible for PI3K/Akt pathway activation," Li says. "These amino acids are highly conserved in most of the flu strains including 'bird flu.'"

Testing the theory on bird flu will have to wait for a Level 3 containment facility. The International Vaccine Centre (InterVac) currently under construction beside VIDO on the U of S campus will have this capacity.

△ Postdoctoral research fellow **Dr. Yang Li** (left) with supervisor and fellow flu researcher **Dr. Yan Zhou** at their VIDO laboratory.

RESEARCH SPOTLIGHT
DR. CHANTAL BUSSIERE
POSTDOCTORAL RESEARCH FELLOW, SOCIO-HEALTH

Healthy eating for mom and baby-to-be

While pickles and ice cream might be the tongue-in-cheek prescription for expectant moms, Dr. Chantal Bussiere would like to see them reach for a bowl of bean soup or a lentil muffin instead and make sure they get adequate exercise.

Bussiere, a postdoctoral research fellow at the University of Saskatchewan's College of Kinesiology, explains pregnant women are more likely to experience gestational diabetes if they have one or more risk factors. These include a history of diabetes in their immediate family, being overweight, having a history of insulin resistance, or belonging to a high-risk ethnic group such as Aboriginal, Hispanic, South Asian, Asian, or African.

Moms-to-be in these high-risk categories must be especially careful to avoid foods with a high glycemic index – items such as white bread and refined, sugary products. They should also make regular exercise a part of their daily routine.

^ **Dr. Chantal Bussiere** (right) with supervisor **Dr. Karen Chad**

Foods with a high glycemic index cause a spike in blood sugar soon after they are eaten, causing the body to produce a corresponding insulin surge to deal with the excess. Bussiere hopes this situation can be fixed by switching to legumes such as beans and lentils.

"Legumes as a food group have a low glycemic index. Consumption of these foods yields a sustained plateau in blood sugar which is a healthier state to be in," she says.

Legumes also fill you up more quickly, so you are more likely to eat less. They are also affordable – an important advantage for those mothers-to-be with limited means.

"Legumes are a very low-cost, high-protein food source," Bussiere says. "Adding these foods to a family's grocery list would likely reduce the overall cost if legumes were replacing other food items that would normally be consumed."

An integral part of the research project will be an exercise regimen for the expectant mothers.

"By pairing a diet rich in legumes with physical activity during pregnancy, we hope to create a health intervention that is accessible and effective at curbing the development of diabetes," she says.

Like many jurisdictions in Canada and around the world, Saskatchewan is plagued by high rates of obesity and diabetes. Bussiere, working with supervisor Dr. Karen Chad and colleague Dr. Carol Rodgers, seeks to provide a solution.

During the term of her SHRF Research Fellowship, Bussiere will also compare Aboriginal and non-Aboriginal moms-to-be to see if there are differences in how the groups respond. Legumes are a traditional staple food for some North American First Nations.

Research Fellowships

Chantal Bussiere (K. Chad)
Kinesiology, University of Saskatchewan
The impact of a legume diet and exercise on the prevention of GDM in at-risk women and on predictors of fetal chronic metabolic disease development

Nataliya Dolgova (O. Dmitriev)
Biochemistry, Medicine,
University of Saskatchewan
Structural analysis of the unique substrate binding site of the Wilson disease ATPase

Enqi Du (S.K. Tikoo)
Vaccine and Infectious Disease Organization,
University of Saskatchewan
New strategy for oral vaccination: Targeting to M cells in Peyer's Patches

Nelson Eng (G. Mutwiri)
Vaccine and Infectious Disease Organization,
University of Saskatchewan
Investigations of polyphosphazenes as adjuvants for mucosal vaccines

Yang Li (Y. Zhou)
Vaccine and Infectious Disease Organization,
University of Saskatchewan
Molecular mechanism of PI3K/Akt pathway activation and its role in influenza virus pathogenesis

Donna Lindsay (T. Harkness)
Anatomy and Cell Biology, Medicine,
University of Saskatchewan
Histone deacetylases, the yeast anaphase promoting complex and the control of disease and aging

Philip Links (D. Anderson)
Oncology, Medicine, University of Saskatchewan
The role of the regulatory subunit of PI3K (p85) in PDGF receptor down-regulation

Claudia Mickael (W. Köster)
Vaccine and Infectious Disease Organization,
University of Saskatchewan
Effect of vaccination with type III secreted proteins in Salmonella Enteritidis colonization in chickens

Landon Pastushok (R. Geyer and J. DeCoteau)
Biochemistry, Medicine, University of Saskatchewan
Identification of proteins involved in LYS63-linked ubiquitin chain signalling in cancer-related pathways

Note:
Lay-language summaries of the research projects of all grant recipients are available online at www.shrf.ca.

Research Connections Grants

This program provides up to **$10,000 per event in matching funds** to support conferences, workshops, research days and similar events that are organized and held in Saskatchewan. It is intended to promote advancement and exchange of new health research knowledge; encourage linkages among multiple stakeholders; help address knowledge gaps in areas of particular importance to the province; and nurture development of the next generation of researchers.

RESEARCH SPOTLIGHT
DRS. BILL THOMLINSON AND DEAN CHAPMAN
RESEARCH CONNECTIONS, BIOMEDICAL

MASR: Exploring Medical Applications of Canada's Synchrotron

Researchers from around the world converged on Saskatoon in August 2007 for the Medical Applications of Synchrotron Radiation conference (MASR 2007) at the Canadian Light Source (CLS), the national synchrotron facility at the University of Saskatchewan.

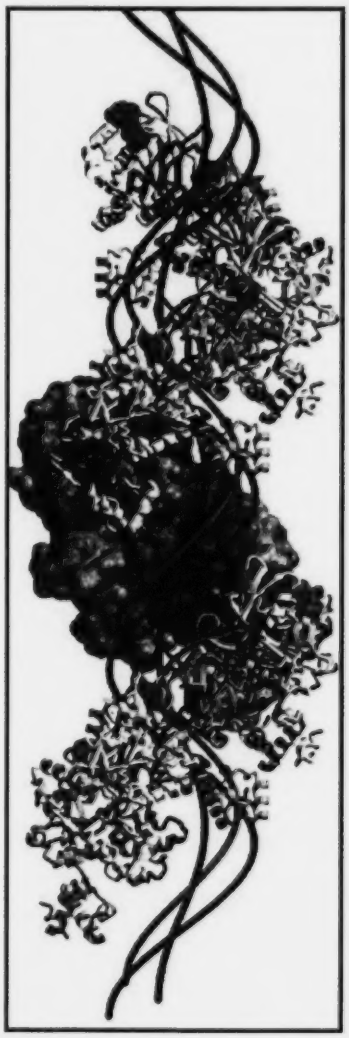
Synchrotrons are some of the world's most powerful research tools, creating ultra-bright light in a wide spectrum from infrared to X-rays. This light can be used in a wide variety of medical applications, from determining the shape of molecules to design better drugs, to creating pictures of tissue such as cartilage, muscle, and lungs that cannot be seen any other way.

Held every three years, MASR allowed scientists to discuss recent advances in using synchrotron light to illuminate medical research questions. The conference also showcased the active medical and life science research community at the University of Saskatchewan.

A highlight was the $17 million BioMedical Imaging and Therapy (BMIT) facility currently under construction at the CLS. Like the synchrotron itself, BMIT is the product of collaboration among funding agencies at the provincial and national levels, including SHRF.

The conference was divided into thematic sessions including general overviews of synchrotron technology and techniques for medical research; using synchrotron light to understand the pathology of diseases; the use of synchrotron light to study and treat cancer; and medical imaging. A free public talk, "Shining Synchrotron Light on Cancer Research," allowed the public to participate and learn about this exciting research resource.

MASR 2007 was funded in part by a SHRF Research Connections grant.



This image, generated from data gathered at the Canadian Light Source, illustrates the structure of recombinases, enzymes used in DNA repair. Mapping protein structures like this one to study diseases and design new drugs is one of the many medical applications of synchrotron light.

Image: Dr. Yu Luo, Molecular Design Research Group, University of Saskatchewan.

RESEARCH SPOTLIGHT
DR. NORMA STEWART
RESEARCH CONNECTIONS, SOCIO-HEALTH

Introducing Student Nurses to Opportunities in Research

More than 400 researchers and students from around the province gathered in Saskatoon in March 2008 to learn about opportunities for research in the nursing profession at *Research in Interprofessional Education*, the University of Saskatchewan College of Nursing Research Day

The event introduced undergraduate students to the possibilities for research in their careers and showcased faculty and graduate student research through paper and poster presentations.

Prominent on the agenda was the P-CITE (Patient Centred Interprofessional Team Experiences), a Health Canada funded project focused on enhancing education for health science students. P-CITE's goal is to improve health by engaging communities and academic institutions in implementing and evaluating interprofessional teams for patient-centered health care.

Masters of Nursing candidate **Sarah Sundquist** (left) discusses her research with Professor **Joan Sawatsky** from the U of S College of Nursing at the College's Research Day. Photo: Trina Evitts

P-CITE co-principal Investigators Sheila Achilles (General Manager for Primary Health, Saskatoon Health Region) and Liz Harrison (Associate Dean Physical Therapy and Interprofessional Education, College of Medicine, University of Saskatchewan) delivered the keynote address.

Other presentations during Nursing Research Day described interprofessional education projects under P-CITE, and a poster session highlighted a variety of general research activities in the College of Nursing.

Research Connection Grants

Custody & Caring: The Nurse's Role in the Criminal Justice System
Continuing Nursing Education, Nursing,
University of Saskatchewan
Key contact: **Kyla Avis**

3rd Annual Grad Student Research Conference
Research and Graduate Studies,
University of Regina
Key contact: **Dongyan Blachford**

Medical Applications of Synchrotron Radiation Conference
Canadian Light Source,
University of Saskatchewan
Key contacts: **Bill Thomlinson and Dean Chapman**

Canadian Aboriginal End of Life Care Research Network Workshop
Nursing, University of Saskatchewan
Key contact: **Wendy Duggleby**

15th Annual Life: Health Sciences Research Day
Research and Graduate Studies
University of Saskatchewan
Key contact: **Curtis Larson**

7th Annual Cancer Research Day
Community Health and Epidemiology,
Medicine, University of Saskatchewan
Key contact: **Anne Leis**

Limited Income Restricts Seniors Access to Services
Saskatchewan Seniors Mechanism
Key contact: **Beverly MacLeod**

Improving Human Health: Metabolic Syndrome
Health and Nutrition, Ag-West Bio Inc.
Key contact: **Lisette Mascarenhas**

CLS Life Science Theme Workshop
Geological Sciences, Arts,
University of Saskatchewan
Key contact: **Ingrid Pickering**

International Biology Olympiad
Physics and Engineering,
University of Saskatchewan
Key contact: **Vanessa Ross Young**

Research in Interprofessional Education
Nursing, University of Saskatchewan
Key contact: **Norma Stewart**

2008 World Psychiatric Association – Epidemiology & Public Health Section Meeting
Psychiatry, Medicine, University of Saskatchewan
Key contact: **Raymond Tempier**

Summer School 2007 – Health Promotion: A Holistic Instrument of Change
Prairie Region Health Promotion Research Centre,
University of Saskatchewan
Key contact: **Lewis Williams**

Note:
Further information on all grant recipients is available online at www.shrf.ca.

Research Group Development Grants

This program provides up to $25,000 per year in matching funds for up to two years, renewable once. It supports formation and early development of health research groups with the potential to evolve into highly productive and sustainable teams capable of securing ongoing competitive funding. Group leaders' home universities support development of these promising groups by providing matching funds.

RESEARCH SPOTLIGHT
DRS. JOHN DECOTEAU AND RON GEYER
RESEARCH GROUP DEVELOPMENT

Taking Aim at Cancer's Roots

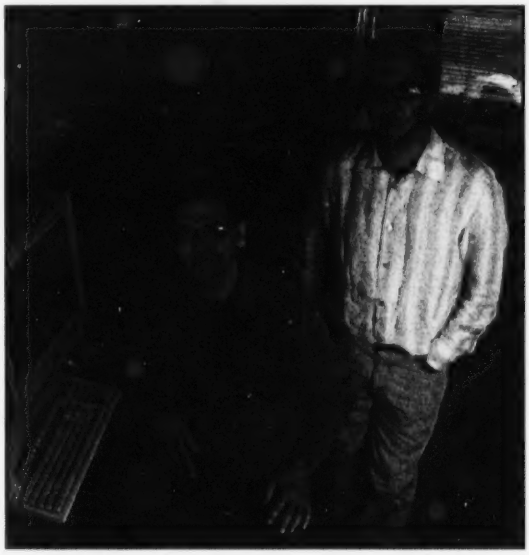
According to Dr. John DeCoteau and Dr. Ron Geyer, cancer behaves much like a weed: you can knock it down, but unless you dig out the root, it will come right back.

"It became evident to us that in the cancers we were working on – leukemias – that current therapies weren't curing the disease; they were simply suppressing it," Geyer says. "A lot of people were relapsing."

Further investigation by researchers around the world revealed that while most cancer cells withered under the onslaught of medications, a few were resistant. These cells had the ability to self-renew and give rise to highly prolific daughter cells that could form all the different cell types in a tumour. They were, in effect, "cancer stem cells."

"It became apparent that cancer stem cells were resistant. As people stopped taking the drugs, these resistant stem cells would cause their cancer to come back."

Geyer, a biochemist, and DeCoteau, a pathologist, are based at the University of Saskatchewan's College of Medicine. They lead the Cancer Stem Cell Initiative, funded in part by a SHRF Research Group Development grant. This group of researchers will attack the cancer stem cell question from several angles and harness the advanced imaging and analysis techniques available at the Canadian Light Source, the national synchrotron facility at the University of Saskatchewan.



Dr. John DeCoteau and **Dr. Ron Geyer** in their Saskatoon laboratory.

The first challenge is to find out how cancer stem cells differ from other cells, then to explore how these differences may be exploited to develop new, effective therapies. Ultimately, the goal is not merely treatment, but a cure.

"We want to eradicate the disease rather than suppress it," Geyer says.

Research Group Development Grants

Obesity Research Group
Kinesiology, University of Saskatchean
Group leader: **Karen Chad**

Tissue Engineering Research Group
Mechanical Engineering, Engineering, University of Saskatchewan
Group leader: **Daniel Chen**

Cancer Stem Cell Initiative (CSRI)
Pathology, Medicine, University of Saskatchewan
Group leaders: **John DeCoteau and Ron Geyer**

Saskatchewan Team for Research & Evaluation of Addictions Treatment & Mental Health Services (STREAM)
Psychiatry, Medicine, University of Saskatchewan
Group leaders: **Raymond Tempier and Colleen Dell**

Note:
Lay-language summaries on all Research Group Development grant recipients are available online at www.shrf.ca.

Health Research Team Grants

This program provides major support of up to **$500,000 per year for five years** for teams of talented and experienced researchers who conduct high-quality work, contribute to knowledge translation, and build capacity at a level of productivity that would not be possible for individuals working on their own. The program supports teams comprising a range of talent, experience, and perspective for tackling complex health issues of importance to Saskatchewan.

RESEARCH SPOTLIGHT
QOL TEAM UNIVERSITY OF REGINA

Quality of Life and the Language of Pain

"Ouch! That hurts!"

When we hear these words, we immediately try to remove the source of discomfort, or failing that, we reach for medication to alleviate the pain itself. But what happens when the sufferer cannot speak and lacks the ability to tell you what they're feeling?

This is reality for people with advanced Alzheimer's and other dementias, explains Dr. Thomas Hadjistavropoulos, a University of Regina researcher and authority on pain management in the elderly.

"Having severe Alzheimer's disease does not reduce suffering from pain," he says. "Pain is very prevalent in this vulnerable group with most long-term care residents suffering from some kind of pain – pain that often goes undertreated and undetected by clinicians."

Backed by a major Health Research Team grant from SHRF as well as various SHRF grants in the past, Hadjistavropoulos has assembled a multidisciplinary team to address the problem of pain – as well as other important quality of life issues such as falls, nutritional supplementation, and person-centered care – right from basic research to clinical practice. The team has leveraged the SHRF funds to secure further backing from their home universities as well as several major federal grants.

"I am confident that this program will result in Saskatchewan being recognized as one of the world's leading and most important centres of long-term care research," Hadjistavropoulos says.

Formally known as the Research and Community Alliance for Quality of Life in Long Term Care (QOL Team), the group includes researchers and clinicians from Saskatchewan's two major universities and two largest health regions that encompass more than 40 long term care units within their jurisdictions.

Team expertise comprises nursing, cell biology, family medicine, geriatric psychiatry, ethics, clinical nutrition, physical therapy, clinical psychology, social psychology, neuropsychology, biostatistics and methodology. Several members are internationally recognized experts in their disciplines. Together, their achievements are changing the way health professionals care for their elderly charges.

An example is the PACSLAC, or Pain Assessment Checklist for Seniors with Limited Ability to Communicate. The PACSLAC was developed by Hadjistavropoulos and one of his graduate students, Shannon Fuchs-Lacelle.

"This tool represents one of the best methodologies for assessing pain in seniors with severe dementia, has been translated and investigated in other languages, and is being used around the world," Hadjistavropoulos says.

Developing and sharing research knowledge are key objectives of the QOL Team. Hadjistavropoulos explains that Saskatchewan, with the highest proportion of elderly people of any province in Canada, is uniquely positioned to take the lead in this research area both as a matter of compassion and of self interest.

"These residents in long-term care who are suffering from undermanaged pain can be our friends, our parents and, one day, ourselves," he says.

The QOL Team: Ron Martin, Don Sharpe, Susan Whiting, Lilian Thorpe, Jaime Williams, Thomas Hadjistavropoulos, Sue Neville, Sharon Kaasalainen, Rhonda Scudds, Juanita Tremeer, Dennis Alfano, and David Malloy. Not pictured: Lisa Lix, Bernhard Juurlink, and Omar Rahaman.

Health Research Team Grants

Research and Community Alliance for Quality of Life in Long Term Care (QOL Team)
Centre on Aging and Health, University of Regina
Team leader: **Thomas Hadjistavropoulos**

Research Alliance for the Prevention of Infectious Disease (RAPID)
Vaccine and Infectious Disease Organization, University of Saskatchewan
Team leader: **Andrew Potter**

Note: Lay-language summaries on all Health Research Team grant recipients are available online at www.shrf.ca

Grant Selection Process

Our selection processes are founded on peer review, where panels of active researchers assess research proposals using excellence, relevance and feasibility as key deciding factors. Applications must also exemplify the stated objectives and priorities for the particular funding program (as described in our Awards Guide).

Our granting process has multiple steps listed below. Peer review for any programs where SHRF is matching or partnering with other funding agencies may be done by the other agency, so long as SHRF requirements are met.

Selection Steps

- SHRF invites reviewers to serve on committees
- Applicants submit proposals to SHRF
- SHRF staff screen applications for completeness and eligibility
- Committee chair, with SHRF staff, assigns applications to reviewers
- Reviewers prepare in-depth, written assessments
- Committee meets to discuss and rate all applications
- Committee recommends the top applications for funding to the SHRF Board
- SHRF Board approves as many grants as available funds allow
- SHRF staff ensures all conditions are met, including ethics review
- SHRF office releases funding to researchers' home institution

Our review committee chairs and members are primarily selected and recruited from Saskatchewan's health research and service communities. We also call on reviewers from outside the province for certain programs. Our peer reviewers are not only instrumental in evaluating applications; they also provide valuable feedback to us about procedures, programs and trends in the health research community. Peer review committee members for 2007-08 are listed in this section.

We are extremely grateful to our dedicated review committee chairs and members who so generously provide their expertise on a volunteer basis for up to three-year terms. These dedicated individuals contribute to the collective wisdom that is critical to the quality and integrity of our selection processes.

Peer Review Committee Membership

Figures in parentheses indicate number of years served, including current competition.

BIOMEDICAL PERSONNEL AWARDS REVIEW COMMITTEE

Louis Delbaere (Chair) (4)
Biochemistry
College of Medicine
University of Saskatchewan

Adam Baxter-Jones (1)
College of Kinesiology
University of Saskatchewan

Lalita Bharadwaj (1)
College of Nursing
University of Saskatchewan

Michael Corcoran (3)
Anatomy and Cell Biology
College of Medicine
University of Saskatchewan

Thomas Fisher (3)
Physiology
College of Medicine
University of Saskatchewan

Andrew Freywald (3)
Chemistry and Biochemistry
Faculty of Science
University of Regina

Susan Kaminskyj (1)
Biology
College of Arts and Science
University of Saskatchewan

Scott Napper (3)
Vaccine and Infectious Disease Organization
University of Saskatchewan

BIOMEDICAL ESTABLISHMENT GRANT REVIEW COMMITTEE

Bill Roesler (Chair) (1)
Biochemistry
College of Medicine
University of Saskatchewan

Volker Gerdts (1)
Vaccine and Infectious Disease Organization
University of Saskatchewan

Ron Geyer (3)
Biochemistry
College of Medicine
University of Saskatchewan

Lisa Kalynchuk (1)
Psychology
College of Arts and Science
University of Saskatchewan

Jeremy Lee (3)
Biochemistry
College of Medicine
University of Saskatchewan

Darrell Mousseau (3)
Psychiatry
College of Medicine
University of Saskatchewan

Helen Nichol (4)
Anatomy and Cell Biology
College of Medicine
University of Saskatchewan

David Sanders (1)
Chemistry
College of Arts and Science
University of Saskatchewan

Christopher Yost (1)
Biology
Faculty of Science
University of Saskatchewan

SOCIO-HEALTH GRANTS AND AWARDS REVIEW COMMITTEE

Bonnie Jeffery (Chair) (4)
Faculty of Social Work
University of Regina

Patty Beck (1)
Population Health Branch
Saskatchewan Health

Wendy Duggleby (2)
College of Nursing
University of Saskatchewan

Mary Hampton (3)
Psychology
Luther College
University of Regina

Kent Kowalski (3)
College of Kinesiology
University of Saskatchewan

Judith Kulig (2)
School of Health Sciences
University of Lethbridge

Michael MacGregor (2)
Psychology
College of Arts and Science
University of Saskatchewan

Richard Musto (1)
Public Health
Calgary Health Region

HEALTH RESEARCH TEAM AND RESEARCH GROUP DEVELOPMENT GRANT REVIEW COMMITTEE

Neena Chappell (Chair) (2)
Sociology
Faculty of Social Sciences
University of Victoria

Andrew Demchuk (4)
Clinical Neurosciences
Faculty of Medicine
University of Calgary

Brenda Elias (2)
Community Health Sciences
Faculty of Medicine
University of Manitoba

Nikki Gerrard (1)
Adult Community Services
Saskatoon Health Region

Paul McDonald (2)
Health Studies and Gerontology
Faculty of Applied Health Sciences
University of Waterloo

Don Smyth (2)
Internal Medicine and Pharmacology
Faculty of Medicine
University of Manitoba

Health Research Data Centre

In fall, 2007, a Statistics Canada Research Data Centre (RDC) was established, led by the University of Saskatchewan and supported by many partner agencies. Starting in 2007-08, the Foundation is providing $120,000 over three years to support this important social science research resource at the U of S.

RDCs are considered essential infrastructure for quantitative inquiry, leading to better policy decisions through evidence-based information and recommendations. The range of potential research is broad, including agriculture, commerce, economics, education, environment, health, and sociology. It is estimated that about half the activity in RDCs across Canada is health-related. Saskatchewan was one of only two provinces without such a centre.

There has been strong interest for some time among researchers and agencies – including the universities, some health regions and the Health Quality Council – to establish an RDC in Saskatchewan. Access to data has been a long-standing priority for the Foundation and its predecessor agencies. In addition, new needs have emerged with the new Schools of Public Policy, Public Health, and the Environment, where RDCs will be essential for research and teaching.

Due to the potentially sensitive nature of the data, access is carefully controlled and follows strict protocols. Thanks to the Foundation's support, all health researchers in Saskatchewan will have access to the RDC. Operations are led by academic director Dr. Carl D'Arcy and are overseen by a management committee. An evaluation after three years will guide its future.

Common CV and Research Directory

This year, SHRF joined the Canadian Common CV (curriculum vitae) and now requires all applicants to complete the CCV. This change streamlines and simplifies the application process and also contributes to the development of a fully searchable, web-based directory of health researchers in Saskatchewan.

Saskatchewan researchers are invited to join the Saskatchewan Directory of Health Researchers when completing the CCV so their information can be used in the directory. This resource will soon be linked with other provincial directories, forming a national repository.

The directory is a powerful tool for networking, finding experts in certain fields, and for determining strengths and gaps in the research landscape. With the Foundation's participation, any researcher in Saskatchewan – not only applicants – can complete the CV modules and contribute to the Saskatchewan directory via our portal. This includes researchers in health organizations as well as those in the universities. To use the directory or add a listing, visit www.shrf.ca and follow the menu links on the left side of the home page.

^ **Dr. Beth Horsburgh, Associate Vice-President Research-Health (University of Saskatchewan) and Vice-President Research and Innovation (Saskatoon Health Region).** Photo: Saskatoon Health Region

Health Research Co-ordination

Working with its university partners, the Foundation supports special positions focused on increasing health research activity and national funding success rates among Saskatchewan researchers. This includes workshops and internal processes that help researchers prepare high-quality grant applications.

At the University of Saskatchewan, the Foundation was instrumental in establishing the University Co-ordinator of Health Research, reporting to the Vice-President Research, in 1999. The Foundation provides $100,000 per year and the university provides $50,000 per year and in-kind support to this partnership.

In July 2007, the role expanded to a shared position between the university (Associate Vice-President Research, Health) and the Saskatoon Health Region (Vice-President of Research and Innovation). Dr. Bruce Waygood was University Co-ordinator of Health Research until his retirement in June 2007. Dr. Beth Horsburgh was recruited to the new expanded shared position, starting July 1, 2007. She is spending considerable time in her first year developing a vision for this unique joint position.

In 2005, the Foundation entered into a similar agreement with the University of Regina, contributing $35,000 for a 25 per cent time Health Research Leader function and a 50 per cent time supporting administrative position. The University's contributions include additional salary and in-kind support. Dr. David Gauthier took on the new role until he became Vice-President Research and International in 2007-08. The role will continue to be a key part of the University's efforts to increase health-related research activity and enhance related processes.

Partnerships Multiply Research Resources

The purpose of SHRF Matching Funding Programs is to collaborate with other funding agencies to support health research in Saskatchewan and increase national funds coming to Saskatchewan. Any grants funded through this program must fit SHRF's mandate and objectives and must align with the goals of the provincial *Health Research Strategy*. This section summarizes matching programs in which SHRF participated during 2007-08, many of which will go forward.

Nursing Care Partnership

The Nursing Care Partnership is a research initiative managed by the Canadian Nurses Foundation and funded by the Canadian Health Research Services Foundation. It supports applied nursing research that shapes nursing care and clinical practice and develops nursing research capacity. SHRF selects applications from its own peer-reviewed competitions that meet NCP requirements and CNF conducts a relevance review. In a three-year partnership that expires September 2009, the Foundation provides funds on a 1:1 matching basis with CNF.

Through this partnership in 2007-08, we secured funding for an additional New Investigator Establishment Grant and strategic funding for capacity-building activities to a New Investigator Establishment Grant holder conducting nursing research.

Applied Health Services and Policy Research Chair

The Applied Chair program with the Canadian Institutes of Health Research-Institute of Health Services and Policy Research (CIHR-IHSPR) supports mid-career faculty who conduct applied health services and policy research that is relevant to and informs health system managers, policy makers, and healthcare providers.

The award provides $185,000 per year for five years, of which $100,000 per year is a contribution to the award holder's salary and $85,000 per year is for research, education, mentoring and knowledge translation. CIHR's competition began in 2007-08, with decisions expected in fall 2008. The Foundation will provide funds for successful Saskatchewan applicants on a 1:1 matching basis with CIHR.

Partnerships for Health System Improvement

The Partnerships for Health System Improvement (PHSI) Program is a CIHR initiative run by the Institute for Health Services and Policy Research (IHSPR). It is designed to support teams of researchers and decision-makers interested in conducting applied health services research useful to health system managers and or policy makers over the next two-to-five years. Teams apply to CIHR, which manages the peer review process.

In 2007-08, the Foundation assumed responsibility for managing Saskatchewan's matching funds for this CIHR program, previously managed by the Ministry of Advanced Education, Employment and Labour. The Ministry provided $150,000 to the Foundation from its Innovation and Science Fund to support teams doing research in Saskatchewan. The matching ratio for PHSI in Saskatchewan is 2:1, where CIHR provides the larger amount.

The Foundation's role is to encourage more applications in Saskatchewan, manage the provincial matching funds, and participate in the required relevance review. CIHR plans to revise the program in 2008-09, based on consultations with researchers and funding partners, in an effort to streamline the application process and ensure the funding is sufficient to address significant issues.

Regional Partnership Program

The Saskatchewan – Canadian Institutes of Health Research Regional Partnership Program (Sask-CIHR RPP) is intended to increase the level of nationally funded health research in Saskatchewan. Saskatchewan has participated in CIHR's Regional Partnership Program since 1999, which has substantially increased the number of CIHR grants and awards in Saskatchewan. For evidence of this growth, please see "CIHR Funding" in the Measuring Impact section.

The Sask-CIHR RPP has a $2-million per year envelope, provided by CIHR and provincial funds. In Saskatchewan, funding consists of $700,000 per year from SHRF, $250,000 per year from the Ministry of Advanced Education, Employment and Labour, and $50,000 for studentships from the Universities of Saskatchewan and Regina. SHRF manages these funds with its university and government partners on a provincial advisory committee.

Researchers apply directly to CIHR, which does the peer review and ranks the applications. Researchers with very good scores that are just below CIHR's high funding cut-offs are funded on 1:1 matching basis. In 2007-08 SHRF approved nine Operating Grants, three New Investigator Salary Awards, and four Ph.D. Student Awards for a total funding commitment of approximately $1.4 million over 5 years (see Table 2).

Table 2: Summary of Grants and Awards Approved in 2007-08*
Saskatchewan – Canadian Institutes of Health Research (CIHR)
Regional Partnership Program (RPP)

Type	Term	Number Approved	Approved Funding ($) **
Faculty Salary Awards	Up to 5 years	3	988,064 34%
Postdoctoral Fellowships	Up to 3 years		
Doctoral Awards	Up to 3 years	4	132,000 4.5%
Operating Grants	Up to 2 years		
Equipment Grants	–	0	–
TOTAL		17	2,883,742 100%

* A list of approved grants and awards is available upon request.

** Approved amounts include both the CIHR and provincial commitments, matched 1:1. These amounts are as originally approved and do not reflect subsequent adjustments due to changes such as early terminations.

This year, CIHR extended the program for three years to 2010-11. Based on discussions with representatives from all eligible provinces, CIHR also changed the way the program operates. It will now be offered as part of CIHR's priority announcement process. In its strategic plan for RPP, Saskatchewan's advisory committee has chosen the following CIHR programs as its priorities: Open Grants Competition; New Investigator Salary Awards; and Doctoral Student Awards. In addition, Fellowship Awards may be funded if resources permit. The strategic plan and Sask-CIHR RPP policies are available at www.shrf.ca.

SHRF and the Saskatchewan health research community are very pleased that CIHR will continue its commitment to this program that supports health research across the country.

Dr. Thomas Haas, a researcher in the University of Saskatchewan College of Medicine, is working to understand the structure-function relationship of integrins in cancer and cardiovascular disease. Integrins are complex proteins that allow our cells to stick to each other and to other molecules.

Dr. Haas has made a number of breakthroughs that may change the way we treat some cancers and cardiovascular diseases. His work is supported through the Sask-CIHR RPP as well as other SHRF grants. More information is available at www.shrf.ca.

Return on Investment

Evaluation is identified as one of four major themes outlined in the *Health Research Strategy*. This year SHRF continued the evaluation activities of its predecessor, the Health Services Utilization and Research Commission (HSURC), namely the five-year follow-up impact studies with establishment grant holders and a larger analysis of the fellowship program. Since the release of Evaluating Saskatchewan's *Health Research Strategy*: An Evaluation Framework in January 2007, SHRF has been busy collecting baseline data regarding public opinion, scientific output, organizational influence, and economic impact. We will use these data to assess the impact of our funding in the years to come.

Programs

Postdoctoral Fellowship Evaluation

Evaluating our funding programs is necessary to determine their effectiveness and contribution to Saskatchewan's health research environment. This year a major review of the Research Fellowship Program was undertaken to understand how the program contributes to fulfilling the overall mandate of SHRF and determine how the program is working.

In general, the program is viewed very positively and is seen to have many benefits for Saskatchewan's health research environment. In particular, it contributes to the training of future researchers and to the productivity of established faculty who supervise the fellows. The program fosters research collaborations and professional networking, which contribute to career development and enhance the overall research environment.

SHRF has developed a follow-up action plan to address recommendations from the study. These include strengthened communications about several aspects, increased tracking of fellows' national success and career impact, and exploring options for improving the clinical research fellowship component.

Establishment Grant Holders – 5-Year Follow-up

A five-year follow-up with 2002-03 New Investigator Establishment grant holders was also completed to measure impact of the program on their career and subsequent research. In 2002-03 HSURC funded 13 New Investigator Establishment Grants with eight completing our five-year follow-up survey. Our evaluation revealed that all respondents had received major funding from additional sources that averaged about five times the total of the original HSURC grant provided. This funding also contributed to capacity-building among respondents, resulting in 16 individuals trained as graduate students and another 16 employed as research assistants, technicians and support staff. In addition, more than one-third of respondents had publications as a primary author related to the HSURC funded research. We look forward to the coming year as it will be the first five-year follow-up of SHRF-funded grants and fellowships.

Organizational Effectiveness

SHRF is in the process of developing and implementing a new organizational effectiveness theme to complement and support the four strategic themes of the *Health Research Strategy*. Based on Board direction, SHRF staff developed the new theme using the Balanced Scorecard approach, comprised of four balanced perspectives including: 1) Stakeholder/Client Needs; 2) Internal Processes; 3) People (staff-board development, work-life, innovation); and 4) Financial/Asset Stewardship.

This approach translates strategy into actionable and measurable objectives. It will take the four balanced perspectives and translate the vision and mission of SHRF into operational terms. We are building performance measures and targets for the four perspectives and setting up a data management system and action protocol to follow up with scorecard results.

Economic Benefits of Health Research

SHRF has been working with the Saskatchewan Institute of Public Policy (SIPP) over the last year on a study to measure the economic impacts of health research in Saskatchewan. The study looks at the direct and indirect effects of health research activity in Saskatchewan. Highlights are presented below.

Direct Impact

- Based on available data, health research activity made a direct contribution of $79.7 million to provincial output and a total contribution of $99.6 million in 2003.
- Health research activity made a direct contribution of 1,238 jobs and a total contribution of 1,445 jobs.

Indirect Impact

- From 1996 to 2006, there has been an overall increase in employment of 7,300 (27.9 per cent) in "Health Occupations" in Saskatchewan.
- In 2004-05, there were 6,117 students in the province enrolled in a health program related to health research or in which their choice of study may have been influenced by the level of health research in the province. This was an overall increase in the number of such students of 1,221 (or 24.9 per cent) from 10 years earlier.

More information is available at www.shrf.ca.

Publication Trends

In September 2007, SHRF contracted Science-Metrix to analyze and report on health research productivity in the form of publication trends in Saskatchewan. Bibliometric analysis is one of several measures chosen to evaluate research impact. This is the second such study commissioned by SHRF and reports on data from 2001-2006. Some of the key findings are reported below.

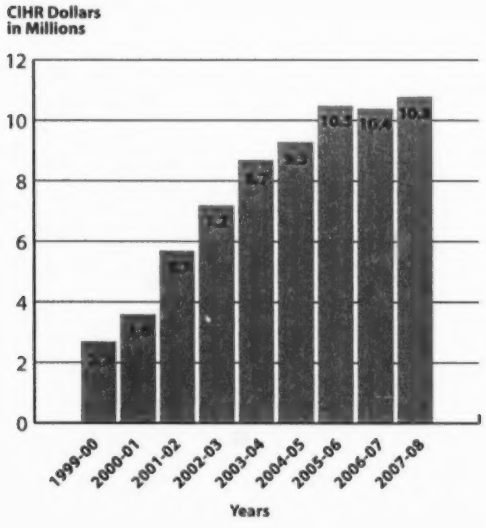
- Longitudinal data reported in the 2007 dataset shows that health research in Saskatchewan has increased in papers published from approximately 400 in 1987 to 600 in 2006.
- From 2001 to 2006, Saskatchewan health researchers published 3,138 papers, equating to 3.15 papers per 1,000 inhabitants. Of these 3,138 papers, 34 per cent were the result of interprovincial collaboration and 35 per cent international collaboration.
- Compared to other jurisdictions, Saskatchewan rates just above the world average in measures of health research quality as determined by number of citations.
- Saskatchewan tends to rate below the world average on measures of specialization, or quantity of health research relative to other types of research.
- Research fields in Saskatchewan that are above world standards in specialization and citations include clinical psychology, behavioural sciences, nutrition and dietetics, and veterinary medicine. Other notable fields of study at or above world standards include public health, nursing, arthritis, fertility, and general psychology.

SHRF plans to track this data yearly in co-operation with our partners in NAPHRO (National Alliance of Provincial Health Research Organizations). We plan to share these results with our university and health partners and work together to improve our national and world rankings.

National Funding

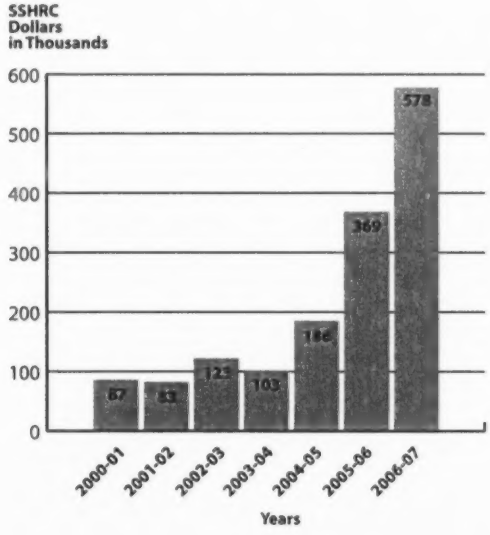
Canadian Institutes of Health Research (CIHR)

Another key indicator of research performance is the share of national funding attained by provincial health researchers. Saskatchewan researchers were successful 164 times and attained more than $10.8 million dollars in CIHR funding for the 2007-2008 fiscal year. As seen in the graph below, Saskatchewan has experienced a steady increase in CIHR funding over the past several years. However, the province's share of health research funding from CIHR is low from a per capita perspective. The province receives funding amounting to about 1.3 per cent of CIHR's budget in comparison to Saskatchewan's three per cent of the nation's population.



Social Sciences and Humanities Research Council of Canada

Although SSHRC is not the main source of national health research funding, Saskatchewan researchers have been increasingly successful over the past seven years. In 2006-07, researchers received over $575,000 in health related research funding, 11 per cent of all SSHRC funding coming into Saskatchewan.



Evaluating the *Health Research Strategy*

Assessing the Influence of Saskatchewan's *Health Research Strategy*

The goal of this project is to create a broad picture of the awareness and use of the *Health Research Strategy* throughout various organizations in the province. The Strategy, released by the Minister of Health in 2004, is a 10-year vision to strengthen health research in Saskatchewan and ensure research leads to benefits for citizens (see page 4 of this report for summarized highlights of the Strategy, or visit www.shrf.ca for a pdf version of the full document).

To assess the influence of the Strategy, interviews were conducted with senior representatives from three universities, four health regions, two non-profit organizations, and one from government.

Data has been collected and we are in the process of analyzing and writing this report. When completed, a summary of results will be posted at www.shrf.ca.

Future Projects

In the upcoming year SHRF will be working hard on a number of research and evaluation projects. We are presently compiling data and writing a report titled Health Issues in Saskatchewan and Research Direction. This report aims to update and summarize health indicator data in Saskatchewan and inform on current health issues that may benefit from further research. Later we plan to compare and align this information with research activity and capacity to "refresh" the *Health Research Strategy* priority areas. In addition to scheduled evaluation activities we will begin preparing for the major five-year evaluation of the *Health Research Strategy* to be completed in 2009-10.

Dr. Debra Morgan leads the Rural and Remote Memory Clinic at the University of Saskatchewan.

IMPACT STORY: RURAL AND REMOTE MEMORY CLINIC

Memory Clinic Eases Burden on Rural and Remote Seniors

In the beginning, it's easy to just chalk it up to getting older: that bit of forgetfulness, a tendency to get confused from time to time, a feeling that you're not quite as sharp as you used to be.

Dementia, in its early stages, can be subtle, but early diagnosis is critical so people can prepare for a future where they will no longer be able to make their own decisions. Wills need to be updated, powers of attorney assigned.

"One of the burning desires people and their families have is the need for answers. They want a diagnosis." says Dr. Andrew Kirk, a neurologist with the Rural and Remote Memory Clinic demonstration project at the University of Saskatchewan.

For people in rural and remote communities, getting this diagnosis can be a drawn out and expensive affair, involving separate hours-long trips to visit neurologists, neuropsychologists, and other professionals, and to get tests such as CT scans.

Project leader Dr. Debra Morgan explains the problem is made more acute because rural and remote communities have more seniors: 22 per cent in Saskatchewan's small towns and villages, compared to 15 per cent in its cities.

"We know there are a large number of people with dementia in the province —over 18,000 — and that's growing all the time as our population ages," she says.

The Memory Clinic assembles all necessary professionals and services in one place. Assessments are made, tests are conducted, and the team discusses the results with the patient. In most cases, patients and their families have the diagnosis they need by the end of the day.

Once they return home, patients are monitored via Telehealth, a two-way audio-visual link that allows them to go to the hospital or clinic in their own community rather than make the trip to Saskatoon. Kirk explains that using Telehealth for follow-up consultations is much less onerous for patients and results in a clearer picture of the person's health.

"If you have someone with cognitive impairment and stick them in their car and travel for six hours, they're not at their best," he says. "You want people at their best so they can co-operate well with testing to help with making the right diagnosis."

In its five years of operation, the Memory Clinic has garnered rave reviews from patients and their families, and has attracted accolades as one of the star programs within the Saskatoon Health Region. Demand for the clinic's services has grown to the point where the team is considering doubling its operations from one day a week to two days to help deal with the growing waiting list.

"If we can get the funding, we would like to do two days a week and see more people," Kirk says.

That funding, provided by SHRF and the Canadian Institutes of Health Research (CIHR), runs out in 2008. With a proven track record and growing demand, the team hopes to secure long term backing from the provincial government and the health region to make the Memory Clinic a permanent service for Saskatchewan's rural and remote seniors.

IMPACT STORY: MOLECULAR DESIGN RESEARCH GROUP

The Shape of Treatments to Come

In the battle between our immune systems, viruses, and bacteria, the shape of molecules is all important.

Viruses mimic cell wall molecules to sneak in and highjack cells. Our systems fight back, manufacturing antibodies that lock on to the viruses to take them out of commission.

Researchers with the Molecular Design Research Group at the University of Saskatchewan are working to help win the battle by identifying likely targets – proteins on the surfaces of viruses and bacteria. With this knowledge, they can design drugs that will lock on to the microbes to either kill them or make them unable to reproduce. The goal is to help detect, treat, and prevent many diseases.

"We're working on structural studies of proteins that serve as convenient targets, for example, for designing drugs directed primarily against Staphylococcus aureus bacteria that are a main cause of serious, sometimes fatal hospital infections," says team leader Dr. Louis Delbaere, a protein crystallographer at the University of Saskatchewan's College of Medicine.

Crystallographers isolate compounds of interest, produce them in crystal form, then analyze them with X-ray light to determine their shape. And there is no brighter light than that available at the Canadian Light Source (CLS) national synchrotron facility at the University of Saskatchewan.

Delbaere was one of only two synchrotron scientists at the U of S in the late 1990s when the CLS project was given the green light. Since then, he and his colleagues have been assembling expertise and gaining experience on foreign synchrotrons to prepare for when the local facilities were available.

The synchrotron itself opened for business in 2004. The Canadian Macromolecular Crystallography Facility (CMCF-I), the group's main research tool, came online in 2007. A second, high-throughput facility, CMCF-II, is due to come online in 2009.

SHRF has supported the group's development since the Foundation's inception in 2003, culminating in a full Health Research Team grant. The team has leveraged this funding to secure additional resources from the University and the Canadian Institutes of Health Research (CIHR).

"The funding has encouraged joint projects and joint CIHR applications among the PIs in the group," Delbaere says.

With its core research capacity established, the group has amassed an impressive list of research publications to its credit and is building momentum.

"We now have a team of researchers working together to solve the structures of specific proteins and to use these structures to develop drugs against Staphylococcus aureus bacteria," Delbaere says. "Without the SHRF funding we likely would never have started such collaborations on these projects."

Dr. Louis Delbaere (seated, second from right) and the **Molecular Design Research Team.** The team works to discover and describe the structure of molecules involved in bacterial infections, cancer, Parkinson's, Alzheimer's, diabetes and immune disorders.

The *Health Research in Action* framework offers ideas and guidelines on how to share and use health research. For more information and copies of the Framework, visit www.shrf.ca.

Knowledge Translation

Knowledge translation – sharing and using health research – is one of four major themes in the provincial *Health Research Strategy*. Therefore, we spend considerable time and effort in this area. Leading the development of a provincial framework for building capacity to share and use health research was a major initiative for us.

The resulting *Health Research in Action* framework was built through partnerships and consultation. People from around the province within many organizations and sectors and in a range of occupations participated in our advisory committee, focus groups and final workshop. The framework's successful implementation will depend on continued collaboration.

Completed in April 2007, the framework can be applied in many agencies and sectors. It consists of three parts: guiding principles; strategic directions and actions; and implementation guidelines. The three strategic directions will help agencies build capacity by: 1) explicitly acknowledging knowledge translation in job descriptions and work plans and rewarding these activities; 2) educating and supporting people to share and use health research; and 3) creating and enhancing structures, tools and policies that facilitate the process. This very practical framework is intended to serve as a template that agencies may adopt, in part or whole, to help them improve their capacity for sharing and using research to improve their work.

The Foundation also encourages knowledge translation in other ways. For example, in grant applications researchers must address how their work relates to important health issues and explain how they plan to share their findings. It is also tracked in grant reports, follow-up surveys, and program evaluations. For researchers, publishing is always a major avenue for sharing findings. Other avenues depend, of course, on the type of research and its context.

We are also working with CIHR and other funding agencies in Canada to explore best practices and new ways for supporting and encouraging knowledge translation. In February, CIHR convened a Funders Dialogue on Knowledge Translation (KT). Participants agreed on the need for more capacity in this area, for identifying appropriate evaluation measures, and for creating a funders' network or community of practice to share best practices and generate ideas.

In the coming year, the Foundation will continue to share its Health Research in Action framework widely within and outside the province. In addition, we are considering expanding our own capacity for knowledge translation, as this area of our mandate continues to grow in importance.

Making Connections

SHRF works to spread the news about and promote health research excellence in this province. Through these activities, SHRF is being accountable to the people of Saskatchewan by sharing information about the innovative and exciting research being funded by public money. These dissemination and promotion efforts also foster connections between researchers and stakeholders, links that help them to share and use health research knowledge for the benefit of the people of our province.

The Research for Health campaign continued in 2007-08, introducing some of Saskatchewan's top health researchers to the public through advertisements in the Saskatoon *StarPhoenix*, Regina *Leader-Post*, and selected newspapers across Saskatchewan. Advertisements highlight SHRF-funded researchers working in a wide range of endeavour. Examples include reducing incidence of diabetes through exercise, end of life care, the roots of cancer, and the effects of stroke.

The Foundation's online presence at www.shrf.ca continues to be a core communications channel, with news and information on funding programs and partnerships, as well as brief summaries on all SHRF-funded researchers across Saskatchewan.

SHRF once again honoured our new researchers with the Top Researcher Awards, given to those individuals who ranked highest in the New Investigator Establishment Grant and Postdoctoral Research Fellowship competitions. The winners in the New Investigator Establishment category were Janet Hill (Biomedical) and Saija Kontulainen (Socio-Health). Top honours in the Postdoctoral Research Fellowship category went to Chantal Bussiere (Socio-Health) and Yang Li (Biomedical).

There was insufficient participation in the SHRF Achievement Award program in 2007-08, precluding an award for this year. The program is being re-vamped to encourage entries for the coming year.

These award winners were recognized along with their fellow SHRF grant recipients for the year at SHRF's annual Santé! Awards Dinner in December. More than 120 researchers and members of Saskatchewan's health research community attended the December 7th event at Saskatoon's Delta Bessborough Hotel. The evening included a poster session for researchers that allowed them to discuss their projects with colleagues and VIPs, followed by a gala dinner. Special guests included the Honourable Rob Norris, Saskatchewan Minister of Advanced Education, Employment and Labour, who brought greetings from the provincial government and congratulations to the award winners.

The Santé! Awards Dinner was the highlight of Health Research Week from December 2-8. Some of the week's other activities included two public Distinguished Researcher lectures at the University of Saskatchewan, plus a special supplement in the Saskatoon *StarPhoenix* and Regina *Leader-Post*. This supplement featured stories on the latest work by researchers from the University of Regina and University of Saskatchewan.

^ **Santé! Awards Dinner**

< The Research for Health ad series showcases Saskatchewan researchers in the province's major newspapers.

Dr. Janet Hill receives her Top New Investigator Establishment Grant (Biomedical) from the Honourable Rob Norris, Saskatchewan Minister of Advanced Education, Employment, and Labour.

Report of Management

Management is responsible for the integrity of the financial information reported by the Saskatchewan Health Research Foundation. Fulfilling this responsibility requires the preparation and presentation of financial statements and other financial information in accordance with Canadian generally accepted accounting principles that are consistently applied, with any exceptions specifically described in the financial statements.

The accounting system used by the Foundation includes an appropriate system of internal controls to provide reasonable assurance that:

- transactions are authorized;
- the assets of the Foundation are protected from loss and unauthorized use; and
- the accounts are properly kept and financial reports are properly monitored to ensure reliable information is provided for preparation of financial statements and other financial information.

To ensure management meets its responsibilities for financial reporting and internal control, board members of the Foundation discuss audit and financial reporting matters with representatives of management at regular meetings. Foundation board members have also reviewed and approved the financial statements with representatives of management.

The Provincial Auditor of Saskatchewan has audited the Foundation's statement of financial position and statements of operations, change in net financial assets and cash flows. His responsibility is to express an opinion on the fairness of management's financial statements. The Auditor's report outlines the scope of his audit and his opinion.

Gregory P. Marchildon, PhD
Board Chair

June M. Bold, MSc
Chief Executive Officer

Saskatoon, Saskatchewan
April 28, 2008

Auditor's Report

To the Members of the Legislative Assembly of Saskatchewan

I have audited the statement of financial position of the Saskatchewan Health Research Foundation as at March 31, 2008 and the statements of operations and change in net financial assets and cash flows for the year then ended. The Foundation's management is responsible for preparing these financial statements for Treasury Board's approval. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In my opinion, these financial statements present fairly, in all material respects, the financial position of the Saskatchewan Health Research Foundation as at March 31, 2008 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Regina, Saskatchewan
May 7, 2008

Fred Wendel, CMA, CA
Provincial Auditor

SASKATCHEWAN HEALTH RESEARCH FOUNDATION
STATEMENT OF FINANCIAL POSITION
As at March 31

	2008	2007
		(Note 12)
Financial assets		
Cash and cash equivalents (Schedule 2)	$ 318,538	$ 842,012
Accrued interest receivable	19,079	5,677
Accounts receivable	16,061	8,305
Short-term investments (Schedule 2)	1,153,836	1,088,907
Long-term investments (Schedule 2)	3,794,227	2,769,820
	5,301,741	4,714,721
Liabilities		
Deferred revenue (Note 7)	150,000	-
Accounts payable	7,539	17,939
Payroll liabilities	16,785	-
Grants payable	594,731	462,100
	769,055	480,039
Net financial assets	4,532,686	4,234,682
Non-financial assets		
Tangible capital assets (Note 2(c) and 3)	30,861	43,705
Prepaid expenses	21,373	9,502
	52,234	53,207
Accumulated surplus	$ 4,584,920	$ 4,287,889

Commitments (Schedule 3 and Notes 4, 5 and 6)

(See accompanying notes to the financial statements)

SASKATCHEWAN HEALTH RESEARCH FOUNDATION
STATEMENT OF OPERATIONS
For the Year Ended March 31

	2008		2007
	Budget	Actual	Actual
	(Note 10)		(Note 12)
Revenue			
General Revenue Fund			
Ministry of Health	$ 6,113,000	$ 6,113,000	$ 5,933,000
Ministry of Advanced Education, Employment and Labour	250,000	250,000	250,000
Partnership revenue	19,998	59,985	39,076
Interest	115,000	197,522	200,594
Recoveries	-	75,726	23,614
Donations	-	99	41
Miscellaneous	-	1,860	1,625
Total revenue	6,497,998	6,698,192	6,447,950
Expense			
Research funding			
Personnel awards	750,000	537,500	681,022
Research grants (Notes 2(d))	2,067,190	2,173,789	1,587,544
Research centres (Note 5)	1,275,000	1,275,000	3,306,716
Partnerships (Note 5)	155,000	155,000	135,000
Matching grants (Note 6)	950,000	964,286	979,713
Program support	317,895	359,846	140,479
Dissemination and promotion	271,600	184,437	180,746
Evaluation and research	150,095	135,284	255,027
Leadership and management			
Board	40,650	29,165	28,101
Administrative	522,570	586,854	418,573
Total expenses (Schedule 1)	6,500,000	6,401,161	7,712,921
Annual surplus (deficit)	$ (2,002)	297,031	(1,264,971)
Accumulated surplus, beginning of year		4,287,889	5,552,860
Accumulated surplus, end of year		$ 4,584,920	$ 4,287,889

(See accompanying notes to the financial statements)

Statement 3

SASKATCHEWAN HEALTH RESEARCH FOUNDATION
STATEMENT OF CHANGE IN NET FINANCIAL ASSETS
For the Year Ended March 31

	2008	2007
		(Note 12)
Annual surplus (deficit)	$ 297,031	$ (1,264,971)
Acquisition of tangible capital assets	(12,771)	(6,410)
Disposal of capital assets	1,654	246
Amortization of tangible capital assets	23,961	22,680
	12,844	16,516
Acquisiton of prepaid expense	(36,395)	(9,625)
Use of prepaid expense	24,524	5,079
	(11,871)	(4,546)
Increase (decrease) in net financial assets	298,004	(1,253,001)
Net financial assets, beginning of year	4,234,682	5,487,683
Net financial assets, end of year	$ 4,532,686	$ 4,234,682

(See accompanying notes to the financial statements)

Statement 4

SASKATCHEWAN HEALTH RESEARCH FOUNDATION
STATEMENT OF CASH FLOWS
For the Year Ended March 31

	2008	2007
		(Note 12)
Operating transactions		
Annual surplus (deficit)	$ 297,031	$ (1,264,971)
Non-cash items included in annual deficit:		
Amortization of tangible capital assets	23,961	22,680
Loss on disposal of capital assets	824	246
Bond discount amortization	(159,706)	(175,856)
Net change in non-cash working capital items:		
Accrued interest receivable	(13,402)	(5,677)
Accounts receivable	(7,756)	(1,573)
Prepaid expenses	(11,871)	(4,546)
Deferred revenue	150,000	-
Accounts payable	(10,400)	13,968
Payroll liabilities	16,785	-
Grants payable	132,631	104,174
Cash provided by (used by) operating transactions	418,097	(1,311,555)
Capital transactions		
Cash used to acquire tangible capital assets	(12,771)	(6,410)
Proceeds from disposal of capital assets	830	-
Cash applied to capital transactions	(11,941)	(6,410)
Investing transactions		
Purchase of investments	(2,332,551)	(200,000)
Proceeds from disposal and redemption of investments	1,402,921	1,906,030
Cash (used by) provided by investing transactions	(929,630)	1,706,030
(Decrease) increase in cash and cash equivalents	(523,474)	388,065
Cash and cash equivalents, beginning of year	842,012	453,947
Cash and cash equivalents, end of year	$ 318,538	$ 842,012

(See accompanying notes to the financial statements)

SASKATCHEWAN HEALTH RESEARCH FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS
MARCH 31, 2008

1. Establishment of the Foundation

On January 31, 2003, *The Saskatchewan Health Research Foundation Act* (S.S. 2002, c.S-21.1) came into force establishing the Saskatchewan Health Research Foundation (Foundation). The Foundation is responsible for organizing, managing and allocating most provincial health research funding in Saskatchewan and for ensuring that supported research fits with the Province's health research priorities and leads to benefits for health and the health system in Saskatchewan. The Foundation is the lead agency on implementing the provincial *Health Research Strategy*.

2. Accounting Policies

The Foundation uses generally accepted accounting principles as recommended by the Public Sector Accounting Board of the Canadian Institute of Chartered Accountants. The following accounting principles are considered to be significant:

a) Revenue

The Foundation's main revenue for operations is contributions from the Ministry of Health – General Revenue Fund with other revenue coming from partnerships, interest and miscellaneous revenue. Contributions are unrestricted and are recognized in the year received.

Restricted contributions from the Ministry of Advanced Education, Employment and Labour are used for the Canadian Institutes of Health Research (CIHR) Regional Partnership Program (RPP) (see note 6) and the CIHR Partnerships for Health System Improvement Program (PHSI) (see note 7). These contributions are recognized in the year expenses are incurred.

b) Measurement uncertainty

The preparation of financial statements in accordance with PSAB accounting principles requires the Foundation's management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of commitments at the date of the financial statements and the reported amounts of revenue and expenses during the period. Actual results could differ from those estimates.

c) Tangible capital assets

The recognition and measurement of tangible capital assets is based on their service potential. Purchases of furniture and office equipment over $250 and computer hardware and software over $500 are recorded at cost as a capital asset. Purchases below these amounts are expensed as incurred. Amortization is recorded on a straight-line basis as follows:

Furniture	10 years
Office Equipment	5 years
Computer Hardware and Software	3 years
Leasehold Improvements	length of lease

Normal maintenance and repairs are expensed as incurred.

d) Research grants

The Foundation holds annual funding competitions through which applications are adjudicated by experts based on excellence and relevance. Terms vary and are normally multi-year. The Foundation pays the approved funds over the term of the grant, provided the recipients meet eligibility criteria. Grant funds approved are paid from current year revenue for each year of the grant, subject to available revenue. Grant recipients are informed of this condition in a written grant offer. Awarded amounts not paid or payable at year-end are recorded as commitments (see Schedule 3).

Awarded funds are sent to the recipients' home institution to manage and disburse as required for the approved research. Funds not spent during the term of a research grant are treated as a recovery in the year that this is determined.

e) Investments

Investments are valued at amortized cost.

f) Basis of accounting

The financial statements are prepared using the accrual basis of accounting.

3. Tangible Capital Assets

	Furniture and Equipment	Leasehold Improvements	2008 Totals	2007 Totals
Opening cost	$ 86,401	$ 37,726	$ 124,127	$ 125,544
Additions during the year	12,771	-	12,771	6,410
Disposals during the year	13,823	-	13,823	7,827
Closing cost	85,349	37,726	123,075	124,127
Opening accumulated amortization	52,127	28,295	80,422	65,323
Amortization for the year	14,530	9,431	23,961	22,680
Disposals during the year	12,169	-	12,169	7,581
Closing accumulated amortization	54,488	37,726	92,214	80,422
Net book value of tangible capital assets	$ 30,861	$ -	$ 30,861	$ 43,705

4. Lease Commitments

At March 31, 2008, the Foundation had the following lease commitments:

	2009	2010	2011	2012	2013
Office lease	$ 77,145	$ 77,145	$ 77,145	$ 77,145	$ 35,358
Photocopier lease	3,817	3,817	3,817	3,181	-
Postage meter lease	926	926	926	926	926
	$ 81,888	$ 81,888	$ 81,888	$ 81,252	$ 36,284

5. Other Research Initiatives

The Foundation provides core funding to one remaining research centre, carrying on commitments transferred from the Ministry of Health and the Health Services Utilization and Research Commission. Additionally, the Foundation periodically enters into funding partnerships, often spanning more than one year, to help achieve its goals and objectives (see Schedule 3).

6. Saskatchewan – Canadian Institutes of Health Research (CIHR) Regional Partnership Program (RPP)

In a partnership that started in 1999 and has been extended to 2010-11, the Foundation provides funds to match funding from the CIHR-RPP on a 1:1 basis to support Saskatchewan researchers and research projects. The Foundation also received $250,000 from the Ministry of Advanced Education, Employment and Labour (from the Innovation and Science Fund) for this program.

		2008
Balance, beginning of year	$	1,318,567
Saskatchewan Health Research Foundation		700,000
Ministry of Advanced Education, Employment and Labour		250,000
Grants paid during 2007-08		(964,286)
Balance, end of year	$	1,304,281
Future grant commitments:		
2008-09		(751,440)
2009-10		(325,003)
2010-11		(138,125)
2011-12		(108,750)
2012-13		(57,500)
Grant commitments pending		(7,500)
Balance after commitments	$	(84,037)

7. Deferred Revenue

The Ministry of Advanced Education, Employment and Labour provided $150,000 to the Foundation from Saskatchewan's Innovation and Science Fund to administer matching funds for the CIHR-PHSI. While the revenue was received this year, funding decisions have not yet been finalized.

8. Related Party Transactions

Included in these financial statements are transactions with various Saskatchewan Crown Corporations, ministries, agencies, boards and commissions related to the Foundation by virtue of common control by the Government of Saskatchewan, and non-Crown corporations and enterprises subject to joint control or significant influence by the Government of Saskatchewan (collectively referred to as "related parties").

Routine operating transactions with related parties are recorded at the standard rates charged by those organizations and are settled on normal trade terms. These transactions and amounts outstanding at year-end are as follows:

	2008	2007
Recovery and miscellaneous revenue:		
Saskatchewan Cancer Agency	$ 6,871	$ -
University of Regina	54,211	100
University of Saskatchewan	15,274	23,889
Other	150	100
Research grant, administrative and occupancy expenses:		
Capital Pension Plan - employee benefits	29,014	23,021
Saskatchewan Association of Health Organizations	4,779	12,287
Saskatchewan Cancer Agency	-	563,000
Saskatchewan Opportunities Corporation - Innovation Place	86,301	83,771
SaskTel	10,913	12,381
University of Regina	970,157	1,174,009
University of Saskatchewan	4,163,293	4,947,643
Other	4,930	9,206
Accounts payable	-	13,369
Grants payable	594,731	462,100
Accounts receivable	-	1,208

The Foundation pays Provincial Sales Tax to the Ministry of Finance on all its taxable purchases. Taxes paid are recorded as part of the cost of those purchases.

Other transactions with related parties and amounts due to or from them are described separately in these financial statements and the notes thereto.

9. Financial Instruments

The Foundation has the following financial instruments: accrued interest receivable, accounts receivable, investments, accounts payable, and grants payable. The following paragraphs disclose the significant aspects of these financial instruments. The Foundation has policies and procedures in place to mitigate the associated risks.

a) Significant terms and conditions

There are no significant terms and conditions associated with the financial instruments, other than investments, that may affect the amount, timing, and certainty of future cash flows. Significant terms and conditions for investments are described separately in these financial statements and the accompanying notes.

b) Interest rate risk

The Foundation is exposed to interest rate risk when the value of its financial instruments fluctuates due to changes in market interest rates.

The Foundation's receivables and payables are non-interest bearing. Due to the short-term nature of these, as well as cash and short-term investments, interest rate risk is minimal.

As market interest rates fluctuate the market value of long-term investments moves in the opposite direction. This risk will affect the price the Foundation could sell the investments for prior to maturity.

c) Credit risk

The Foundation is exposed to credit risk from potential non-payment of accounts receivable or investment income and principal.

Most of the Foundation's receivables are from the provincial government; therefore the credit risk is minimal.

The Foundation's investments consist of provincial and federal government bonds, promissory notes, treasury bills and bankers acceptances with large Canadian banks. Therefore, credit risk for investments and related accrued interest receivable is minimal.

d) Fair value

For the following financial instruments, the carrying amounts approximate fair value due to their immediate or short-term nature:

Accrued interest receivable
Accounts receivable
Short-term investments
Accounts payable
Grants payable

The fair value of long-term investments is $3,806,491 (2007 - $2,740,027). The fair value is considered to approximate quoted market values.

10. Budget

The operating budget was approved by the Foundation's Board on April 5, 2007.

11. Pension Plan

The Foundation is a participating employer in the Capital Pension Plan, a defined contribution pension plan. Eligible employees make monthly contributions which on January 1, 2008 increased from 5.5% to 6% of gross salary. The Foundation's contributions increased from 5.5% to 6.45% of gross salary. During the year, the Foundation's total contributions were $29,014 (2007 - $23,021).

12. Comparative Information

Certain prior year amounts have been restated to conform with the current year's presentation.

Schedule 1

SASKATCHEWAN HEALTH RESEARCH FOUNDATION
SCHEDULE OF EXPENSES BY OBJECT
As at March 31, 2008

	2008		2007
	Budget	Actual	Actual
	(Note 10)		(Note 12)
Amortization	$ -	$ 23,961	$ 22,680
Board expenses	40,650	29,165	28,101
Consulting	53,000	41,690	62,624
Electronic systems	154,750	218,126	3,917
Employee benefits	105,340	103,286	80,388
Employee salaries	504,000	522,714	455,715
Grants and awards	5,197,190	5,105,575	6,689,995
Minor asset purchases	11,200	7,006	1,823
Office expenses	37,170	36,212	29,272
Office space	75,550	82,220	81,101
Promotions	149,500	97,398	97,387
Publications	27,500	23,905	26,529
Review committee expenses	18,400	15,206	16,149
Studies	69,750	63,966	57,235
Travel and meetings	56,000	30,731	60,005
	$ 6,500,000	$ 6,401,161	$ 7,712,921

(See accompanying notes to the financial statements)

Schedule 2

SASKATCHEWAN HEALTH RESEARCH FOUNDATION
SCHEDULE OF INVESTMENTS
As at March 31, 2008

	MATURITY DATE	CARRYING VALUE	EFFECTIVE RATE
Cash and cash equivalents:			
Canadian Imperial Bank of Commerce		318,538	
Short-term investments:			
CIBC GIC	4-Apr-2008	100,000	4.410%
Newfoundland Hydro	30-Apr-2008	107,380	4.480%
Province of British Columbia	9-Jun-2008	322,882	4.590%
Province of Quebec	1-Oct-2008	311,849	4.120%
Province of Ontario	1-Dec-2008	311,725	4.050%
		1,153,836	
Long-term investments:			
Province of Saskatchewan	10-Apr-2009	219,242	3.250%
Province of Newfoundland	17-Apr-2009	489,824	4.120%
Province of Ontario	19-Nov-2009	540,141	4.060%
Province of British Columbia	1-Dec-2009	345,358	4.190%
Province of Saskatchewan	18-Jan-2010	223,787	4.380%
Ontario Hydro	11-Apr-2010	224,977	4.470%
Province of British Columbia	23-Aug-2010	218,572	3.570%
Maple Trust Company GIC	19-Nov-2010	100,000	4.750%
Montreal Trust Company GIC	19-Nov-2010	100,000	4.750%
Province of Ontario	2-Dec-2010	309,490	4.620%
Province of Ontario	2-Jun-2011	222,836	3.690%
National Bank of Canada GIC	12-Sep-2011	100,000	4.730%
Laurentian Bank of Canada GIC	12-Sep-2011	100,000	4.720%
Saskatchewan Savings Bond	15-Jul-2012	200,000	4.200%
HSBC Bank Canada GIC	6-Dec-2012	100,000	4.900%
Laurentian Bank of Canada GIC	6-Dec-2012	100,000	4.875%
Province of Manitoba Allocation Notes	27-Sep-2013	200,000	
		3,794,227	
		$ 5,266,601	

(See accompanying notes to the financial statements)

Schedule 3

SASKATCHEWAN HEALTH RESEARCH FOUNDATION
SCHEDULE OF RESEARCH FUNDING COMMITMENTS
As at March 31, 2008

The Research Funding commitments at March 31, 2008 were as follows:
(Note 2(d) and 5)

YEAR	RESEARCH GRANTS	RESEARCH CENTRES	PARTNERSHIPS	TOTAL
2009	$ 2,947,895	$ 500,000	$ 100,000	$ 3,547,895
2010	1,832,744	-	75,000	1,907,744
2011	1,325,475	-	46,250	1,371,725
2012	995,799	-	-	995,799
2013	952,057	-	-	952,057
	$ 8,053,970	$ 500,000	$ 221,250	$ 8,775,220

(See accompanying notes to the financial statements)

Saskatchewan
Health Research
FOUNDATION

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